

Exhibit 3: 37 C.F.R. § 1.607(a)(5)
Applying Terms of Application Claims
Corresponding to Proposed Counts

As stated above, applicant proposed that claim 59 corresponds exactly to proposed count 1 and that claim 54 corresponds exactly to proposed count 2. Applicant respectfully submits support for claims 54 and 59 can be found as follows:

Claim 54	Support
A method of controlling a frequency of a clock signal which drives a microprocessor, comprising the steps of:	Figure 8 sets forth a series of steps for controlling the frequency of the clock signal. Figures 7, 9, 10, and 11 illustrate apparatus for controlling the temperature of a microprocessor by controlling the frequency of a clock signal which drives the microprocessor. Thus applicant submits that ample support is found for "A method of controlling a frequency of a clock signal which drives a microprocessor".
a) generating a temperature signal corresponding to a temperature of the microprocessor;	<p>In Figure 8, the temperature of a microprocessor integrated circuit is sensed in step 810. At page 26, the specification states: "The sensing of the integrated circuit may be performed by the programmable thermal sensor 110 of the present invention" (element 110 of Figure 4 is the programmable Vbe thermal sensor). Pages 11-23 set forth embodiments of a thermal sensor for incorporation within an integrated circuit so that the temperature of the integrated circuit can be monitored. (see Figure 4, element 110).</p> <p>Thus applicant submits that ample support is found for "generating a temperature signal corresponding to a temperature associated with the microprocessor".</p>

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Claim 54 (continued)	Support
<p>b) generating a first threshold signal if the temperature signal indicates that the microprocessor temperature exceeds a first threshold temperature;</p>	<p>Figure 8, step 820 clearly sets forth the step of comparing the microprocessor integrated circuit temperature with a threshold temperature. In one embodiment, this is accomplished using the programmable thermal sensor of Figure 1.</p> <p>In Figure 1, element 160 illustrates a comparator for comparing a scaled temperature signal with a reference signal. The scale (established by the programmable inputs to the Vbe thermal sensor) determines the first predetermined threshold level. Figure 6 illustrates the comparator in greater detail.</p> <p>Thus ample support is found for the step of "comparing the temperature signal with a first predetermined threshold level."</p>
<p>c) generating a second threshold signal if the temperature signal indicates that the microprocessor temperature exceeds a second threshold temperature; and</p>	<p>The programmable thermal sensor generates an interrupt if the microprocessor attains the pre-programmed threshold temperature. (pg. 23, lines 10-14). In one embodiment, at pg. 25, lines 5-20 the specification discusses generating the interrupt and reprogramming the threshold temperature each time a programmed threshold temperature is exceeded. Thus a second signal is asserted if the temperature exceeds the second predetermined threshold level.</p> <p>In addition, Figure 8 step 830 sets forth comparing the microprocessor temperature with a critical temperature.</p> <p>Furthermore, Figure 8 step 850 clearly sets forth programming a new threshold temperature for the programmable thermal sensor. After the new threshold temperature is programmed, the method proceeds to compare the temperature with the newly programmed threshold temperature (step 820).</p> <p>Whether the second threshold signal is provided by the same programmable thermal sensor or a separate critical temperature thermal sensor (as illustrated in Fig. 11) applicant submits that ample support is found for the step of "generating a second threshold signal if the temperature signal indicates that the microprocessor temperature exceeds a second threshold temperature."</p>

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Claim 54 (continued)	Support
d) varying a frequency of the clock signal in response to at least one of the first and second threshold signals.	<p>The specification states "The PLL circuit 720 permits fine tuning and variable frequency adjustment of the input clock signal. Specifically, the PLL circuit 720 receives a value, and increases or decreases the frequency based on the value received" (pg. 24, lines 5-8). At page 25, lines 12-20, "In response to the interrupt, the processor unit 705 generates a clock control value for the PLL circuit 720. The clock signal value reduces the microprocessor system clock frequency. If the interrupt is again generated the processor unit 705 further reduces the microprocessor system clock frequency".</p> <p>Applicant thus submits that ample support is found for "varying a frequency of the clock signal in response to at least one of the first and second threshold signals".</p>

Claim 59	Support
A microprocessor comprising:	Figures 7, 9, and 10 illustrate various embodiments of a microprocessor.
a processor unit;	Figure 7 illustrates a microprocessor 700 including processor unit 705. Figure 9 illustrates a microprocessor 900 including processor unit 905. Figure 10 illustrates a microprocessor 1000 including processor unit 1005. Thus applicant submits ample support is found for "a processor unit".
a clock circuit providing a clock signal to the processor unit, the clock signal having an associated frequency;	<p>In Figure 7, clock circuit 720 is a phase-locked loop for providing a clock signal to processor unit 705.</p> <p>In Figure 9, clock circuit 930 provides a clock signal to processor unit 905.</p> <p>Furthermore, applicant respectfully submits that "frequency" is an inherent property or parameter of a clock signal.</p> <p>Thus applicant submits that ample support is found for "a clock circuit providing a clock signal to the processor unit, the clock signal having an associated frequency".</p>

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Claim 59 (continued)	Support
<p>a thermal sensor generating a temperature signal corresponding to a temperature of the microprocessor;</p>	<p>Pages 11-23 set forth circuitry for a programmable thermal sensor including a thermal sensor for incorporation within an microprocessor integrated circuit so that the temperature of the integrated circuit can be monitored.</p> <p>Fig. 7 illustrates a microprocessor including a programmable thermal sensor (100) which incorporates the thermal sensor.</p> <p>In one embodiment illustrated in Figure 4, the thermal sensor corresponds to Q11. The output voltage V_{out} from Q11 varies in accordance with the temperature. The V_{be}/temperature characteristic curve of Q11 can be shifted in accordance with the value of programmable input voltage V_{p1}, V_{p2}, and V_{p3}. (see pg. 15, lines 9-21) Thus thermal sensor Q11 generates a temperature signal corresponding to a temperature of the microprocessor. Applicant respectfully submits that ample support is found for "a thermal sensor generating a temperature signal corresponding to a temperature of the microprocessor".</p>

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Claim 59 (continued)	Support
<p>logic circuitry coupled to the thermal sensor, the logic circuitry generating a first signal if the temperature signal exceeds a first threshold level and a second signal if the temperature signal exceeds a second threshold level; and</p>	<p>In one embodiment a programmable thermal sensor and a fail-safe thermal sensor are used (see Fig. 11) to provide the "first" and "second" signals. Thus a first signal is generated if the temperature signal exceeds a first threshold level established within the programmable thermal sensor. Similarly, a second signal is generated if the temperature signal exceeds a second threshold level established by the fail-safe thermal sensor. (see pg. 30, lines 25-27, Fig. 11)</p> <p>In another embodiment, a programmable thermal sensor provides an interrupt (the first signal) when a temperature threshold is reached. The programmable thermal sensor is then reprogrammed with a new temperature threshold. The interrupt is generated again (i.e., the second signal) when the new temperature threshold is reached. (see, e.g., pg. 24, line 26 thru pg. 25, line 20).</p> <p>The application discusses an embodiment of the programmable thermal sensor in which the threshold levels are established by programmable inputs (see Fig. 4). The programmable inputs which effectively scale the Vout temperature signal from Q11 to compare it with a bandgap reference voltage. The various combinations of programmed inputs are thus used as threshold levels corresponding to various microprocessor temperatures. (see pg. 15, line 9 thru pg. 18, line 4; and Figs. 1, 4).</p> <p>Referring to Figure 1, programmable thermal sensor 100 includes comparator 160 for comparing the reference voltage and the scaled Vout temperature signal to determine if a threshold level has been exceeded. If so, then comparator 160 generates the interrupt signal.</p> <p>Applicant respectfully submits that ample support is found for "logic circuitry coupled to the thermal sensor, the logic circuitry generating a first signal if the temperature signal exceeds a first threshold level and a second signal if the temperature signal exceeds a second threshold level"</p>

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Claim 59 (continued)	Support
means for varying the associated frequency of the clock signal in response to at least one of the first and second signals.	<p>Figure 7 illustrates a PLL circuit 720 for varying the frequency of the clock signal. The PLL is controlled by processor unit 705 which, in turn, is responding to the interrupt(s) received from thermal sensor 110. (pg. 24, lines 1-12; pg. 25, lines 12-14).</p> <p>Figure 9 illustrates external logic 940 which varies the frequency of a clock signal from external clock 945 using counter 950 in response to the interrupt(s) from thermal sensor 110. The output of counter 950 drives microprocessor clock circuit 930. (see pg. 28, lines 4-27).</p> <p>Thus a number of means for varying the frequency of the clock signal in response to at least one of the first and second (interrupt) signals is provided. Therefore applicant respectfully submits that ample support is found for "means for varying the associated frequency of the clock signal in response to at least one of the first and second signals".</p>